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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/665,981	GARNER ET AL.
	Examiner	**Art Unit**	
	CHARLES E. LU	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 December 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-34,45-61,64,68,69,109-112,127-138 and 151</u> is/are pending in the application.

     4a) Of the above claim(s) <u>30-34,112 and 136-138</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-29,45-61,64,68,69,109-111,127-135 and 151</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 December 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12/24/2003</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1. This Action is the first action on the merits, in response to Applicant's election of Group I with traverse and withdrawal of all claims in the other restricted groups with traverse.

Applicant's election with traverse of Group I in the reply filed on 12/18/2008 is acknowledged. The traversal is on the grounds that there is no serious burden in examining the remaining groups. The restriction requirement is withdrawn in part. Group III (claim 110) has been rejoined. For all other groups, Applicant's traverse is not found persuasive for the same reasons given in the restriction requirement. The remaining restriction requirement is still deemed proper and is therefore made final.

Claims 30-34, 112, and 136-138 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/18/2008.

As such, claims in Groups I and III (1-29, 45-61, 64, 68-69, 109-111, 127-135, and 151) are pending and rejected.

Specification

2. **The disclosure is objected to because of the following informalities**:

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Appropriate correction is required.

Claim Objections

3. **Claims 16, 22, 45-46, 55, 58, and 151 are objected to because of the**

following informalities:

Claim 16 appears to have a typographical error (repeated phrase).

Claim 22 appears to have a typographical error ("comprise").

Claims 45-46, 55, 58, and 151 depend from claim 1 as well as a withdrawn claim

30. The claims are interpreted to depend from claim 1.

The above list is not exhaustive. Applicant is respectfully requested to correct all

minor informalities such as typographical errors, etc.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

4. **Claims 18-20, 26-28, 50-52, 54, 56, 60, 61, 64, 68, 69, and 134 are rejected**

under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

As to claim 18, it is unclear from the claim language whether the ORD has steps, or whether Applicant intended that the <u>ORD creation method</u> has steps. The claim is understood as having the underlined portion.

As to claims 19-20, "the step of constructing lexical variants" lacks antecedent basis.

As to claim 26, it is unclear which "information" is being referred to (the system's information or the method's information).

As to claims 27-28, "the block of text" lacks antecedent basis when dependent from claim 22. The claims are understood to depend from claim 23.

As to claims 50-51, "the one or more data sources" lacks antecedent basis.

Claim 52 depends from claim 51.

As to claim 54, it is unclear what is meant by "database (network)."

As to claim 56, it is unclear what is meant by "record of comprising information."

As to claim 60, "each term" lacks antecedent basis. No "terms" were previously defined.

Claims 61, 64, 68, and 69 depend from claim 60.

As to claim 134, "the topical unit of text" lacks antecedent basis.

The above list is not exhaustive. Applicant is respectfully requested to carefully review all claims and correct similar errors. The broadest reasonable interpretation is applied to the claims, and limitations from the specification are not read into the claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-29, 49-52, 54-61, 64, 68-69, 109-111, 127-135, and 151 are rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is understood as a system of software modules per se. The claimed system comprises a source of data, a database comprising objects, and a knowledge discovery engine, all understood to not be implemented in hardware, but rather implemented in software per se. Software per se is nonstatutory. MPEP 2106. A piece of hardware should be added to the claim.

As to claims 47, 109, 110, and 151, the claimed "computer readable medium" is suggestive of a signal, which is nonstatutory. The claim should read computer readable storage medium, if supported by the specification.

Claim 111 is drawn to a data structure comprising compounds, which is understood to be non-functional descriptive material (data) per se. Thus, the claim is nonstatutory. MPEP 2106.

As to claim 127, a statutory method must either be tied to a particular machine or transform underlying subject matter to a different state or thing. The claim appears to do neither. The claim should explicitly state a tie to a particular machine.

The remaining claims in this section are rejected as being dependent on one of the rejected parent claims. The prior art-based rejection is applied in anticipation of Applicant overcoming the 101 rejection above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8, 10, 14-15, 17-29, 46-58, 109, and 151 are rejected under 35

USC 102(b) as being anticipated by Brown et al. (US Patent 5,875,446), hereinafter

"Brown."

As to claim 1, Brown teaches the claimed subject matter including:

A source of data comprising one or more domains of information (e.g., figs. 2-5,

col. 6, ll. 25-30);

An object relationship database comprising objects from the one or more

domains of information (e.g., figs. 2-5, fig. 6-9 for the specific structure of database);

A knowledge discovery engine (software) where relationships between two or

more integrated objects are identified, retrieved, grouped, ranked, filtered, and

numerically evaluated (e.g., figs. 10-13, at least cols. 12, l. 54 – col. 16, l. 34; col. 10, ll.

16-35, 65-67, col. 13, ll. 30-50, col. 14, ll. 24-26, col. 15, ll. 20-42, 65-67).

As to claims 2 and 3, Brown further teaches wherein the source is one or more databases containing textual information or numerical information (e.g., see above, books, images, video, etc., col. 8, l. 19-21).

As to claim 4, Brown further teaches wherein the relationships between two or more objects are identified as direct or indirect (e.g., figs. 2-5, col. 8, l. 14).

As to claim 5, Brown further teaches wherein the relationships between the two or more integrated objects are ranked based on the relative strength of the relationship between direct and indirect objects (e.g., fig. 8, col. 8, ll. 22-40, col. 15, ll. 20-40).

As to claim 6, Brown further teaches wherein the relationships are set into categories selected from the group consisting of positive, negative, physical, and logical associations (e.g., see above, col. 13, ll. 49-51);

As to claim 7, Brown further teaches wherein the domains of information comprise parcels of data as information as text, symbol, numerals, and combinations thereof (e.g., see above, col. 6, ll. 25-30).

As to claim 8, Brown further teaches wherein the system is at least partially automated (e.g., see above, fig. 1).

As to claim 10, Brown further teaches wherein the object relationship database is created (see above). The patentability of a product in a product by process claim is based on the product itself. The structure implied by the process steps has been considered, and the process steps are understood not to impart any distinct structural characteristics to the final product. MPEP 2113. Also see below rejection.

As to claim 15, Brown further teaches wherein an object is retrieved from at least one of the claimed sources (see above).

As to claims 21-22, Brown further teaches a graphical user interface for displaying one or more objects, and wherein the interface comprise a control element which can be clicked to display the integrated object derived from the context of the source data (e.g., see above and fig. 13).

As to claims 14, 17-20, and 23-29, Brown further teaches wherein an Object Relationship Database is constructed (see above). These claims are drawn to the process of creating the database. The patentability of a product in a product by process claim is based on the product itself. The structure implied by the process steps has been considered, and the process steps are understood not to impart any distinct structural characteristics to the final product. MPEP 2113. Also see below rejection.

As to claim 46, Brown further teaches wherein the system comprises a processor for executing the functions of the knowledge engine (see above).

As to claim 47, Brown further teaches a computer readable medium for storing the object relationship database (see above).

As to claim 48, Brown further teaches a client/server architecture wherein at least two functions of the system are distributed in a server and at least one client computer connectable to the network (see above, fig. 1).

As to claim 49, Brown further teaches wherein the system comprises a program for accessing one or more data sources (see above).

As to claim 50, Brown further teaches wherein the object relationship database is dynamic, and adds new objects from the one or more data sources to the database (see above).

As to claim 51, Brown further teaches wherein the system recomputes an object network when new objects are added from the one or more data sources (e.g., see above, col. 8, l. 58 – col. 12, l. 52, fig. 13).

As to claim 52, Brown further teaches wherein the system further comprises an engine for monitoring re-computation results, and wherein the system re-evaluates relationships between objects (see above, note iterative/recursive process).

As to claim 53, the database is "downloadable" to the client computer as claimed because the database is data, and Brown teaches a network and a client computer transferring data.

As to claim 54, Brown further teaches wherein the database (network) is stored in memory of the server computer and the at least one client can access the database by communicating with the server (see above).

As to claim 55, Brown further teaches wherein the system further comprises a results and analysis database, wherein the results and analysis database comprises information relating to a query regarding an object relationship and results of the query (e.g., figs. 7, 13, see above).

As to claim 56, Brown further teaches wherein the results and analysis database further comprises a record comprising information relating to an interpretation of the results (e.g., see above, fig. 13, col. 16, ll. 13-30).

As to claim 57, Brown further teaches wherein the results and analysis database further comprises data validating the results (see above and fig. 13).

Claims 58, 109, and 151 are rejected based on the same reasoning as at least claim 1 above.

7. Claim 111 is rejected under 35 USC 102(e) and (a) as being anticipated by Dulong et al. (US 2001/0049673), hereinafter "Dulong."

As to claim 111, Dulong teaches a data structure comprising a plurality of candidate compounds for new drug therapy (e.g., fig. 2, ¶¶ 0050-0054). The intended use limitation is not understood to limit the claim, and the patentability of a product in a product by process claim is based on the product itself. The structure implied by the process steps (i.e., a resulting database or table) has been considered, and the process steps are understood not to impart any distinct structural characteristics to the final product. MPEP 2113. Also see below rejection.

8. Claims 127-130 and 132-135 are rejected under 35 USC 102(e) as being anticipated by Adamic et al. (US 2003/0186243), hereinafter "Adamic."

As to claim 127, Adamic teaches a method comprising the steps of identifying one or more co-occurrences of objects within one or more topical sets in a domain of information, and evaluating the probability that one or more co-occurrences of objects represents a meaningful relationship within one or more optical sets (e.g., fig. 4B). The intended use statement in the claim is not understood to be limiting. MPEP 2106, 2111. Also see below rejection.

As to claim 128, Adamic further teaches wherein the importance is a function of the number of times two objects are co-mentioned within the topical set in the domain of information (e.g., see above, fig. 4A, ¶¶ 0052-0071).

As to claim 129, Adamic further teaches wherein the importance is a function of the textual distance between two objects (e.g., see fig. 3).

As to claim 130, Adamic teaches the importance based on relevance (e.g., ¶ 0052).

As to claim 132, Adamic further teaches wherein a natural language processing engine is used to identify one or more co-occurrences of objects (see above).

As to claim 133, Adamic further teaches wherein contextual information within the topical set is used to assign importance (see above).

As to claim 134, Adamic further teaches wherein contextual information within the topical unit of text is used to assign a nature to the relationship (see above).

As to claim 135, Adamic further teaches wherein importance is veracity (see e.g., fig. 4B, ¶¶ 0052 – 0071).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 23, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown.

As to claim 23, Brown does not expressly teach wherein the ORD is constructed using the claimed method.

However, Brown teaches a block of text, a source of data, a record, and arrays. Thus, Brown suggests that an ORD could be constructed using the claimed method.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the ORD is constructed using the claimed method. The motivation would have been to conform to the user's requirements for creating a database.

As to claim 27, Brown as applied above further teaches or suggests wherein the block of text is selected from at least one of the items in the list (see above).

As to claim 29, Brown as applied above further teaches or suggests the claimed subject matter (e.g., see above, col. 15, ll. 20-25).

10. **Claim 111 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dulong in view of Brown.**

As to claim 111, Dulong does not expressly teach generating using the method. However, Brown teaches the above method (see above).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dulong, such that the data structure is generated using the claimed method. The motivation would have been to conform to the user's requirements in data processing, as known to one of ordinary skill in the art.

11. **Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Ellis et al (US 6,654,736), hereinafter "Ellis."**

As to claim 28, Brown as applied above does not expressly teach wherein the block of text is selected from the Physician's Desk Reference.

However, Ellis teaches a block of text selected from the Physician's Desk Reference (col. 4, ll. 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the Physician's Desk Reference can be accessed. The motivation would have been to add medical sources to be processed, thus increasing the applicability of the system, as known to one of ordinary skill in the art.

12. **Claims 9-14, 17-20, 24-25, and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Kennedy et al (U.S. Patent 6,269,364), hereinafter "Kennedy."**

As to claim 9, Brown as applied above teaches a knowledge discovery engine and integrated objects, but does not expressly teach filtering two or more integrated objects by lexical processing.

However, Kennedy teaches filtering two or more integrated objects by lexical processing (e.g., col. 4, ll. 44-64, figs. 1, 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the integrated objects are filtered by lexical processing. The motivation would have been to facilitate providing more relevant search results, as taught by Kennedy (e.g., col. 4, l. 64 - col. 5, l. 1), and as known to one of ordinary kill in the art.

As to claim 10, Brown does not expressly teach the database created using the claimed steps.

However, Kennedy teaches the claimed steps.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the database is created by the steps of Kennedy. The motivation would have been to facilitate a database with better accessibility, as known to one of ordinary skill in the art.

As to claim 11, Brown as applied above does not expressly teach a database of lexical variants from a data source.

However, Kennedy teaches a database of lexical variants from a data source (e.g., fig. 1, #155, fig. 3, see above).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown to have a database of lexical variants. The motivation would have been to facilitate processing of objects for increasing the relevancy of results (e.g., using synonyms), as taught by Kennedy (e.g., col. 4, l. 64 - col. 5, l. 1), and as known to one of ordinary skill in the art.

As to claim 12, the combination as applied above further teaches or suggests a program for scanning the database with the database of lexical variants to add synonyms (see e.g., Brown's database, and Kennedy, fig. 3).

As to claim 13, Kennedy as applied above further teaches or suggests a program for checking the object relationship database for errors (e.g., invalid database entry, see fig. 4, #480).

As to claim 14, Brown and Kennedy do not expressly teach the ORD created using the claimed steps.

However, Brown teaches a database and an object ID. Object ID's should be unique in order for the system to distinguish objects. Furthermore, a table should be a list of object ID's in increasing order to facilitate processing. Furthermore, Brown teaches adirectional relationships (see above, e.g., col. 8, ll. 40-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the ORD is created with the claimed steps. The motivation would have been to facilitate processing data in a desired organization and order, as known to one of ordinary skill in the art.

As to claim 17, Brown as applied above does not expressly teach screening out common words.

However, Kennedy teaches screening out common words (e.g., fig. 4, #440, 450).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that common words are screened. The motivation would have been to facilitate a cleaner database for processing, since common words are not significant for database searching, as known to one of ordinary skill in the art.

As to claim 18, Brown as applied above does not expressly teach identifying capitalizations and patterns for words by accessing a word database.

However, Kennedy teaches identifying capitalizations and patterns for words (e.g., synonyms, acronyms) by accessing a word database (e.g., fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, capitalizations and patterns for words are found. The motivation would have been to facilitate data accessibility, search, and retrieval, as known to one of ordinary skill in the art and taught by Kennedy.

As to claims 19, 20, and 24, Brown as applied above does not expressly teach using a synonym database and an acronym resolving algorithm.

However, Kennedy teaches using a synonym database and an acronym resolving algorithm (e.g., see fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that a synonym database and an acronym resolving algorithm are used. The motivation would have been to facilitate data accessibility, search, and retrieval, as known to one of ordinary skill in the art and taught by Kennedy.

As to claim 25, Brown as applied above does not expressly teach wherein the method further comprises parsing the record into sentences and parsing each sentence into words.

However, Kennedy strips response of common words, and processes the remaining words (e.g., fig. 4). Thus, Kennedy could parse records into sentences and the sentences into words, to achieve the individual words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown. such that the claimed parsing is implemented. The motivation would have been to facilitate identifying the elements of the document, as taught throughout Kennedy and known to one of ordinary skill in the art.

Claim 110 is rejected based upon the same reasoning as one or more of the above claims.

13. Claims 16, 26, 59-61, 64, 68, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Adamic.

As to claim 16, Brown as applied above does not expressly teach wherein the objects are at least one of the items in the claimed list.

However, Adamic teaches wherein the objects are at least one of the items in the claimed list (e.g., fig. 1, ¶¶ 0021-0022).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that database objects comprise drug information as disclosed by Adamic. The motivation would have been to facilitate search and retrieval of medical information, thus enabling the combination to be applicable in a medical field, as known to one of ordinary skill in the art. Another motivation would have been to facilitate finding genes associated with diseases, as taught throughout Adamic.

As to claim 26, Brown as applied above teaches wherein information (in a database) comprises title (e.g., fig. 6A, #235), but does not expressly teach abstract, date, and PMID fields.

However, Adamic teaches all of title, abstract, date, and PMID fields (e.g., ¶¶ 0021-0022).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that the information includes title, abstract, date, and PMID. The motivation would have been to facilitate having a complete record of an item for processing, as known to one of ordinary skill in the art, and seen in Adamic.

As to claim 59, Brown as applied above teaches ranking, but does not expressly teach generating a linear or nonlinear grouping of individual ranking factors.

However, Adamic teaches generating a linear or nonlinear grouping of individual ranking factors (e.g., fig. 4A, ¶¶ 0041-0049).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that a linear or nonlinear grouping of individual ranking factors. The motivation would have been to facilitate probabilistic relevance calculations, as taught by Adamic (e.g., ¶ 0043).

As to claim 60, Adamic as applied above further teaches or suggests wherein each individual ranking factor is associated with a coefficient that weighs each term (see above).

As to claim 61, Adamic as applied above further teaches or suggests wherein weight is determined by at least one of the listed factors (see above).

As to claim 64, Brown and Adamic as applied above further teach or suggest wherein the data is selected from one of the listed sources (e.g., see Brown above, and see Adamic, ¶ 0045).

As to claim 68, Adamic as applied above further teaches or suggests wherein the frequency of co-occurrences of objects within the data source is determined (e.g., see above and Fig. 4B).

As to claim 69, Brown and Adamic as applied above further teach or suggest wherein the knowledge discovery engine generates a comprehensive network of relationships to identify the implicit relationships (e.g., Adamic, see above, ¶ 0049; Brown, see above, figs. 2-5).

14. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Hong et al (U.S. Patent 5,764,799), hereinafter "Hong."

As to claim 45, Brown as applied above does not expressly teach a scanning module comprising a scanner for scanning printed information and generating a data source from the printed information.

However, Hong teaches a scanning module comprising a scanner for scanning printed information and generating a data source from the printed information (e.g., fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brown, such that a scanning module as claimed is implemented. The motivation would have been to allow scanned information to be electronically searched, as known to one of ordinary skill in the art.

15. Claim 131 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adamic in view of Deligne et al (US 6,314,399), hereinafter "Deligne."

As to claim 131, Adamic as applied above teaches importance, but does not expressly teach evaluation of one or more co-occurrence patterns over time.

However, Deligne teaches evaluation of one or more co-occurrence patterns over time (e.g., col. 7, l. 45 – col. 8, l. 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Adamic, such that one or more co-occurrence patterns over time are evaluated. The motivation would have been to reduce processing complexity, as taught by Deligne (e.g., col. 7, ll. 45-50).

16. **Claims 127-130, and 132-135 are rejected under 35 USC 103(e) as being**

anticipated by Adamic in view of Brown.

As to claim 127, Adamic does not expressly teach "for...claim 1".

However, Brown teaches "for...claim 1" as seen above.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Adamic, such that it could be used, using

Brown's system. The motivation to one of ordinary skill in the art would have been to

increase the applicability of Adamic, and furthermore, Brown provides a graphical user

interface to facilitate user interaction.

As to claim 128, Adamic as applied above further teaches wherein the

importance is a function of the number of times two objects are co-mentioned within the

topical set in the domain of information (e.g., see above, fig. 4A, ¶¶ 0052-0071).

As to claim 129, Adamic as applied above further teaches wherein the

importance is a function of the textual distance between two objects (e.g., see fig. 3).

As to claim 130, Adamic as applied above teaches the importance based on

relevance (e.g., ¶ 0052).

As to claim 132, Adamic as applied above further teaches wherein a natural

language processing engine is used to identify one or more co-occurrences of objects

(see above).

As to claim 133, Adamic as applied above further teaches wherein contextual

information within the topical set is used to assign importance (see above).

As to claim 134, Adamic as applied above further teaches wherein contextual information within the topical unit of text is used to assign a nature to the relationship (see above).

As to claim 135, Adamic as applied above further teaches wherein importance is veracity (see e.g., fig. 4B, ¶¶ 0052 – 0071).

17. Claim 131 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adamic in view of Brown and further in view of Deligne.

As to claim 131, Adamic/Brown as applied above teaches importance (see above), but does not expressly teach evaluation of one or more co-occurrence patterns over time.

However, Deligne teaches evaluation of one or more co-occurrence patterns over time (e.g., col. 7, l. 45 – col. 8, l. 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Adamic and Brown, such that one or more co-occurrence patterns over time are evaluated. The motivation would have been to reduce processing complexity, as taught by Deligne (e.g., col. 7, ll. 45-50).

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Lu whose telephone number is (571) 272-8594. The examiner can normally be reached on 8:30 - 5:00; M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached at (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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/Charles E Lu/
Examiner, Art Unit 2161
3/10/2009